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EXAMINER	
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ART UNIT	**PAPER NUMBER**
2809	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/722,372	GREGORI, ERIC
	Examiner	Art Unit
	Antony M. Paul	2809

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-44 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-44 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the Application filed on November 25, 2003

Objection to Specification

1. The disclosure is objected to because of the following informalities:

The number designation for the word movable barrier 11, on page 5, paragraph 3 and line 5 does not match with the drawing on fig.1 It may be corrected as movable barrier 12. Appropriate correction is required.

2. The word "process 20 processes 22" on page 6, paragraph 4, and line 5 is unclear and does not match the drawing numbering on fig.2. Appropriate correction is required.

3. The number designation for the word "process 20" on page 7, paragraph 1, line 1 and also in paragraphs 3 line 1, paragraph 4, line 1 does not match with the drawing numbering on fig.2. Appropriate correction is required wherever necessary in the disclosure.

4. The number designation for the word "detect 25" on page 9, paragraph 2, line 2 does not match the drawing on fig.2. May be corrected as detect 26. Appropriate correction is required.

5. The word "to now" on page 10, paragraph 4, line 4, is unclear. Appropriate correction is required.

Claim Objections

6. Claim 38 is objected to because of the following informalities:

In regard to claim 38, the phrase "at least one of the at least one additional passpoint event " is vague and indefinite. Appropriate correction is required.

Claim Rejections – 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 25, 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to claim 25, the phrase "the method of claim 24 and wherein subsequently calibrating a determined position for the object with respect to a passpoint event that occurs during the first count zone further comprises not calibrating a determined position for the object with respect to a passpoint event that does not occur during the first count zone" renders the claim indefinite to what it means?

In regard to claim 30, the phrase "a method of claim 29 and wherein subsequently calibrating a determined position for the object with respect to a passpoint event that occurs during at least one of the first count zone and the last count further comprises not calibrating a determined position for the object with respect to a passpoint event that

does not occur during the first count zone and the last count zone" renders the claim indefinite to what it means?

Claim Rejections – 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-22, 24, 29, 41-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Richmond et al. (5,729,101).

In regard to claim 1, Richmond et al. discloses in fig.1 a movable barrier operator (gate operator A, column 9, line 52) comprising:

A movable barrier movement sensor 57 (fig.3, Hall effect sensor, column 10, lines 24-26),

A counter 86 (fig.10, column 10, lines 29-31) that is responsive to the movable barrier movement sensor 57.

A counter 86 generates counts (column 10,lines 54-55), which represent movement of the gate that is sensed by a Hall effect sensor 57 mounted in the gate operator A.

Fig.3 shows four magnets 56, which is sensed by Hall effect sensors 57 (column 14, lines 24-25) are connected to a shaft and each rotation of the shaft would constitute four counts (column 10, lines 64-66);

A passpoint signal generator 84 (fig.10) that is responsive to movement of the movable barrier (gate G, fig.1)

A passpoint signal generator 84 also generate counts (column 10, line 55) that represent movement of the gate (gate, G, fig.6),

A movable barrier position determiner 64 (a microprocessor control unit, fig.10) that is responsive to the counter 86 and the passpoint signal generator 84,

A movable barrier position determiner 64 (a microprocessor control unit) tracks the position of the gate by accessing the count information stored in the memory 62 and these counts stored in the memory 62 are generated through a signal generator 84 and a counter 86 (column 10,lines 42-55, column 14, lines 16-22).

Richmond et al. inherently teach a self-healing mode of operation that facilitates proper passpoint usage even when an installation sequence for the movable barrier operator has not been properly followed.

The self-healing mode of operation is inherent in a microprocessor control unit 64 in the movable barrier operator (gate operator A, fig.1, fig.10). If an installation sequence for the movable barrier operator is not followed, for example, a gate G in fig.8 can slam into a wall when the gate moves to a closing position. To avoid such discrepancies the control unit in the gate operator can automatically recalibrate (column 14, lines 4-6) or the counts that stored in the memory 62 of the control unit 64, which representing the

movement of the gate between two positions is readjusted to achieve a desired position of the gate. The control unit 64 automatically adds or subtracts counts if gate G did not reach the desired position (column 12, lines 39-46).

An example is explained below wherein the control unit 64 controls the movement of the gate using a coasting count that is programmed in the control unit. Richmond et al. shows in fig.7 a passpoint event such as a gate G moving from a fully opened position to a coasting position equivalent to a count value of 485 counts when only 15 counts were programmed into the control unit 64. The gate is short of the fully closed position by 15 counts. Richmond et al. teach that the control unit 64 operates in two modes where in the first mode the control unit adds the missing number of counts and in the second mode, the control unit 64 uses a predetermined number of control counts so that gate G can arrive at the desired position without slamming into a wall structure (column 11, lines 58-67, column 12, lines 1-8).

In regard to claim 2, Richmond et al. shows in fig.4, a movable barrier operator (gate operator A, column 10, line1), wherein the movable barrier movement sensor 57 (Hall effect sensor, fig.3, column 10, lines 24-26) comprises a rotational sensor (fig.3, column 10, lines 16-22, column 14, lines 24-25, 30-31).

In regard to claim 3, Richmond et al. shows in fig.3 wherein the movable barrier movement sensor 57 (Hall effect sensor, column 10, lines 24-26) comprises a linear sensor.

The linearity is inherent in a Hall effect sensor because they (sensors 57, shown in fig.3) rotate in direct proportion to the movement of the gate and the pulses detected by these sensors are equivalent to the movement of the gate (column 6, lines 40-43, column 10, lines 16-26).

In regard to claim 4, Richmond et al. shows in fig.1, a movable barrier operator (gate operator A, column 9, line 52). Richmond et al. inherently teach a self-healing mode of operation comprises defining at least one zone of movable barrier movement sensor signals.

Richmond et al. teach a zone consisting of an event and a value assigned to the event, for example a gate "G" moved from a fully opened position to a coasting position equivalent to a count value of 485 counts when only 15 counts were programmed into the control unit 64. The gate is short of the fully closed position by 15 counts. The count value of 485 counts is only a portion of the 500 counts available.

Richmond et al. teaches about movable barrier movement sensor signals in fig.3 wherein, four magnets 56 are connected to a shaft and these magnets rotate along with the shaft with respect to fixed position Hall sensors 57 (fig.3 & fig.4, column 10, lines 16-20, lines 24-25) and thereby generate pulses or equivalent counts. These pulses or signals generated are units of measurement of movement of the gate (column 6, lines. 34-43).

The self-healing mode of operation is inherent in a movable barrier operator (gate operator A, fig.1, fig.10) that includes a control unit 64 which serves to facilitate a self-healing mode of operation by automatically calibrating or readjusting the counts to move gate G to a desired position. In addition a zone is established that includes a detected passpoint event wherein a count value of 485 counts is assigned to the particular passpoint event and this count value is only a portion of the total 500 counts required in order for gate G to move to a fully closed position.

In regard to claim 5, Richmond et al. shows in fig.1, a movable barrier operator (gate operator A, column 9, line 52).
Richmond et al. inherently teach a self-healing mode of operation comprises defining the zone as comprising a predetermined number of the movable barrier movement sensor signals.

The self-healing mode of operation is inherent in a movable barrier operator (gate operator A, fig.1, fig.10) that includes a control unit 64 which serves to facilitate a self-healing mode of operation by automatically calibrating or readjusting the counts to move gate G to a desired position.

An example is explained below wherein the control unit 64 controls the movement of the gate using a coasting count that is programmed in the control unit. Richmond et al. shows in fig.7 a passpoint event such as a gate G moving from a fully opened position

to a coasting position equivalent to a count value of 485 counts when only 15 counts were programmed into the control unit 64. The gate is short of the fully closed position by 15 counts. Richmond et al. teach that the control unit 64 operates in two modes where in the first mode the control unit adds the missing number of counts and in the second mode, the control unit 64 uses a predetermined number of control counts so that gate G can arrive at a fully closed position without slamming into a wall structure (column 11, lines 58-67, column 12, lines 1-8).

Richmond et al. teach about a gate operator during automatic recalibration uses a microprocessor control unit 64 that is programmed to automatically initiate a new measurement on a predetermined number (column 14, lines 4 –6, 9-15). The movement of the gate to a particular position depends upon this new measurement or this new count value set by the control unit 64 in the gate operator.

Richmond et al. also teaches movable barrier movement sensor signals in fig.3, wherein four magnets 56 are connected to a shaft and the magnets rotate along with the shaft with respect to a fixed position Hall sensors 57 and thereby generate pulses or equivalent counts (fig.3 & fig.4, column 10, lines 16-20, lines 24-25). These pulses or signals generated are units of measurement of movement of the gate (column 6, lines 34-43).

In regard to claim 6, Richmond et al. shows in fig.1, a movable barrier operator (gate operator A, column 9, line 52). Richmond et al. also disclose in fig.10, a counter 86 and a passpoint signal generator 84 (fig.10, counts are generated, column 10, lines 54-55) to calibrate an output of the counter 86 with respect to a passpoint (fig.7, gate "G" moving from a fully opened position to a coasting position) as provided by the passpoint signal generator 84.

The count (for example gate "G" is moved from a fully open position to a fully closed position at a count value of 500, see fig.6, column 10, lines 58-64) generated through a signal generator 84 and a counter 86 is sent to a control unit 64, wherein the information is stored in a memory 62 and executed by a microprocessor 64 in order to achieve the desired control of the gate movement.

Richmond et al. inherently teach a self-healing mode of operation comprises using the at least one zone.

The self-healing mode of operation is inherent in a movable barrier operator (gate operator A, fig.1, fig.10) that includes a control unit 64 which serves to facilitate a self-healing mode of operation by automatically calibrating or readjusting the counts to move gate G to a desired position.

An example is explained below wherein the control unit 64 controls the movement of the gate using a coasting count that is programmed in the control unit. Richmond et al. shows in fig.7 a zone consisting of a passpoint event such as a gate G moving from a fully opened position to a coasting position equivalent to a count value of 485 counts when only 15 counts were programmed into the control unit 64. The gate is short of the fully closed position by 15 counts. Richmond et al. teach that the control unit 64 adds the missing number of counts so that gate G can arrive at a fully closed position without slamming into a wall structure (column 11, lines 60-63).

In regard to claim 7, Richmond et al. disclose in fig.1, a movable barrier operator (gate operator A, column 9, line 52).

Richmond et al. inherently teach a self-healing mode of operation comprises at least being enabled to define at least one additional zone of movable barrier movement sensor signals.

The self-healing mode of operation is inherent in a movable barrier operator (gate operator A, fig.1, fig.10) that includes a control unit 64 which serves to facilitate a self-healing mode of operation by automatically calibrating or readjusting the counts to move gate G to a desired position.
Richmond et al. teaches in fig.8 one additional zone consisting of an event and a value assigned to the event, for example where gate G is moved from a coasting position

equivalent to a count value of 485 counts to another coasting position equivalent to a count value of 497 counts.

Richmond et al. teaches movable barrier movement sensor signals in fig.3, wherein four magnets 56 are connected to a shaft and the magnets rotate along with the shaft with respect to a fixed position Hall sensors 57 and thereby generate pulses or equivalent counts. These pulses or signals generated are units of measurement of movement of the gate such as gate G moving from a coasting position to another coasting position.

In regard to claim 8, Richmond et al. shows in fig.6 a method comprising:

Initiating movement of an object toward a position (gate G is moved from a fully opened position to a fully closed position, column 10, lines 60-62),

Processing a count as a function, at least in part, of the movement of the object towards the position,

Processing a count as a function of the movement of the gate towards a particular position is inherent that the movable barrier (gate G) moves as a function of the output shaft of the motor. A count of revolutions that represents movement of gate G, for example, in fig.6 a count of 500 is needed for gate G to move a distance such as from a fully opened position to a fully closed position and this is equivalent to 125 rotations of the shaft of a motor (column 10, lines 60-64).

Detecting a first passpoint event (fig.7, detecting movement of gate G moving from a fully opened position to a coasting position using the four magnets 56 connected to a motor shaft which is sensed by Hall effect sensors 57 (fig.3 & fig.4, column 10, lines 16-20, lines 24-25),

Correlating a first value of the count (fig.7, first count value of 485) with the first passpoint event (a first event such as a gate G moving from a fully opened position to a coasting position (fig.7, column 11, lines 6-9),

Defining a first count zone (a first zone of count values) to include:
A portion, but not all, of the count as corresponds to movement of the object towards the position (a gate G moving from a fully opened position (count value 0) to a coasting position equivalent to a count value of 485 counts out of the 500 counts available (fig.7, column 11, lines 6-12) and the first passpoint event (a first event such as a gate G moving from a fully opened position to a coasting position (fig.7, column 11, lines 6-9).
In regard to claim 9, Richmond et al. teach a method wherein the first passpoint event (a first passpoint event is a first event such as a gate G moving from a fully opened position to a coasting position as shown in fig.7, column 11, lines 6-9) is one of multiple passpoint events (fig.6 representing movement of gate G from a fully closed position to a fully opened position is one event (column 10, lines 66-67), movement of gate G from a fully opened position to a fully closed position is another event (column 10, lines 60-

62) and fig.7 showing gate G moving to a coasting position (column 11, lines 6-9) is also one of multiple events).

In regard to claim 10, Richmond et al. teach a method wherein initiating movement of an object comprises initiating movement of a movable barrier.
Richmond et al. shows in fig.6 that a gate G is moved from a fully opened position to a fully closed position (column 10, lines 58-62).

In regard to claim 11, Richmond et al. teach a method wherein initiating movement of an object towards a position comprises initiating movement of the movable barrier towards one of, an open position and a closed position.
Richmond et al. shows in fig.6 that a gate G is moved from a fully opened position to a fully closed position (column 10, lines 58-62).

In regard to claim 12, Richmond et al. teach a method wherein processing a count comprises processing a count of revolutions that correspond to movement of the object.
A count of revolutions that represent the movement of the gate, for example, in fig.6 a count of 500 is needed for the gate G to move from a fully opened position to a fully closed position and this is equivalent to 125 rotations or revolutions of the shaft of a motor (column 10, lines 60-64).

In regard to claim 13, Richmond et al. teach a method wherein processing a count comprises at least one of, incrementing a count and decrementing a count. Richmond et al. teaches in fig.10, that movable operator A that includes a control unit 64 is capable of calibrating movement of the gate by increasing or decreasing the number of counts and therefore moving the gate to a desired position (fig.1, fig.10, column 12, lines 39-46).

In regard to claim 14, Richmond et al. teach a method wherein correlating a first value of the count (first count value of 485, column 11, lines 6-12) with the first passpoint event (a first passpoint event is a first event such as a gate G moving from a fully opened position to a coasting position as shown in fig.7, column 11, lines 8-9) comprises correlating a value of the count that is substantially coincident in time to detection of the passpoint event with the first pass point event.

Microprocessor control unit 64 tracks the position of the gate using four magnets 56 wherein the magnets are sensed by Hall effect sensors 57 (column 14, lines 17-25) and they are connected to a rotational member such as a motor shaft in the gate operator A (fig3, column 10, lines 16-20, lines 24-26). Each rotation of the magnets constitutes four counts (column 10, lines 64-66) and these counts are stored in the memory 62 of the control unit 64 (column 10, lines 43-44), wherein the control unit 64 tracks the movement of the gate by accessing the stored counts in the memory 62 (fig.3 and fig 10, column 10, lines 48-49). Fig.6 shows a first passpoint event, wherein a first count

value of 500 is generated which is equivalent to 125 rotations of the magnets 56 connected to the shaft (column 10, lines 58-65).

In regard to claim 15, Richmond et al. teach a method wherein defining a first count zone further comprises defining the first count zone (a first count zone consists of a first event such as a gate G moving from a fully opened position to a coasting position at a count value of 485 as shown in fig.7, column 11, lines 6-12) to not include another passpoint event (only one event occurs at a time such as a gate G moving from a closed position to an opened position or gate G moving from an opened position to a closed position or gate G moving from a closed position to a coasting position or gate G moving from an opened position to a coasting position, column 11, lines 24-39).

In regard to claim 16, Richmond et al. teach a method wherein defining a first count zone (a first count zone that includes a first passpoint event such as a gate G moving from a fully opened position to a coasting position and that has a count value of 485 counts as shown in fig.7, column 11, lines 6-12) further comprises defining the first count zone to extend no further than halfway to a next adjacent pass point.
Moving distance of the gate G is controlled by a microprocessor control unit 64 (fig.1, fig.10). Richmond et al. shows in fig.7 a count zone that includes a passpoint event such as a gate G moving from a fully opened position to a coasting position. If only 15 coasting counts were programmed into the control unit 64, gate G would be driven

(moving gate G from an opened position to a coasting position) only for a driving count of 485 counts.

Likewise if only 12 coasting counts were programmed in the control unit 64 gate G would be driven for a driving count of only 488 counts. Therefore defining the first count zone to extend no further than halfway to a next adjacent pass point depends only on how the counts are set or programmed in the control unit 64 (column 11, lines 9-13).

In regard to claim 17, Richmond et al. teach a method comprising:

Detecting a subsequent passpoint event.

A subsequent passpoint event is where gate G moving from a coasting position to another coasting position (fig.8, column 11, lines 30-31).

Detection of the movement of the gate is by using the four magnets 56 connected to the shaft, which is sensed by Hall effect sensors 57 (fig.3 & fig.4, column 10, lines 16-20, lines 24-25).

Correlating a subsequent value of the count with the subsequent passpoint event.

Gate G moving from a coasting position (fig.8, count value 485) to another coasting position for a count value equivalent to 497 counts (fig.8, column 11, lines 30-34)

Defining a subsequent count zone to include:

A portion, but not all, of the count as corresponds to movement of the object towards the position and the subsequent passpoint event (fig.8, gate G moving from a coasting position at a count value of 485 counts to another coasting position equivalent to 497 counts out of the 500 counts available for gate G to reach the fully closed position).

Therefore a subsequent count zone includes a portion of the count (count value 485 to count value 497 has a difference of 12 counts out of the 500 counts available) and the subsequent passpoint event (Gate G moving from a coasting position to another coasting position where gate G is shy of fully closed position by few counts (fig.8, column 11, lines 30-34) (fig.8, column 11, lines 30-34).

In regard to claim 18, Richmond et al. teach a method wherein defining a subsequent count zone further comprises defining the subsequent count zone (fig.8, gate G moving from a coasting position (count value of 485 counts) to another coasting position (count value of 497 counts) to not include the first passpoint event (a first event such as a gate G moving from a fully opened position (count value 0) to a coasting position (count value of 485 counts).

Only one event is occurring at a time such as a gate G moving from a closed position to an opened position or gate G moving from an opened position to a closed position or gate G moving from an opened position to a coasting position or gate G moving from a closed position to a coasting position, column 11, lines 24-39.

In regard to claim 19, Richmond et al. teach a method wherein defining a subsequent count zone (fig.8, gate G moving from a coasting position (count value of 485 counts) to another coasting position (count value of 497 counts) (fig.8, column 11, lines 30-34) further comprises defining the subsequent count zone to not overlap with the first count zone.

A first count zone is where gate G moving from an opened position (count value 0) to a coasting position (count value of 485 counts) (fig.7, column 11, lines 6-12).

A subsequent count zone is where gate G moving from a coasting position equivalent to a count value of 485 counts to another coasting position equivalent to a count value of 497 counts (fig.8, column 11, lines 30-34).

Therefore the range for the first count zone (0 to 485) does not overlap with subsequent count zone (485-497).

In regard to claim 20, Richmond et al. teach a method comprising:

Detecting a first subsequent passpoint event.

A first subsequent passpoint event is where gate G moving from a coasting position to another coasting position where gate G is shy of fully closed position by few counts (fig.8, column 11, lines 30-34).

Detection of the movement of the gate is by using the four magnets 56 connected to the shaft, which is sensed by hall effect sensors 57 (as shown in fig.3 & fig.4, column 10, lines 16-20, lines 24-25).

Detecting a last passpoint event.

A last passpoint event is where gate G moving from a coasting position to a fully closed position as in fig.9, that is subsequent to the first subsequent passpoint event (a first subsequent passpoint event is again where gate G moving from a coasting position to another coasting position where gate G is shy of fully closed position by few counts).

Defining a last count zone to include a portion, but not all, of the count as corresponds to movement of the object towards the position and the last passpoint event.

A last count zone is where gate G moving from a coasting position equivalent to a count value of 497 counts to a fully closed position equivalent to a count value of 500 counts.

In regard to claim 21, Richmond et al. teach a method comprising defining an intervening count zone to include a portion, but not all, of the count as corresponds to movement of the object towards the position and the first subsequent passpoint event.

An intervening count zone is where gate G moving from a coasting position equivalent to a count value of 485 counts to another coasting position equivalent to a count value

of 497 counts and the intervening zone includes a first subsequent passpoint event where gate G moving from a coasting position to another coasting position when gate G is shy of fully closed position by few counts (fig.8, column 11, lines 30-34).

In regard to claim 22, Richmond et al. teach a method wherein no portion of the first count zone, the last count zone and the intervening count zone overlap with one another.

A first count zone is where gate G moving from an opened position (count value 0) to a coasting position (count value of 485 counts) (fig.7, column 11, lines 6-12).

A last count zone is where gate G moving from a coasting position equivalent to a count value of 497 counts to a fully closed position equivalent to a count value of 500 counts.

An intervening count zone is where gate G moving from a coasting position equivalent to a count value of 485 counts to another coasting position equivalent to a count value of 497 counts.

Therefore a portion of the first count zone (0 to 485 counts) does not overlap with an intervening count zone (485 to 497 counts), which does not overlap with the last count zone (497 to 500 counts).

In regard to claim 24 Richmond et al. teach a method comprising:

Subsequently calibrating a determined position for the object with respect to a passpoint event that occurs during the first count zone.

The first count zone consists of a passpoint event such as gate G moving from a fully opened position equivalent to a count value 0 to a coasting position equivalent to a count value of 485 counts (fig.7, column 11, lines 6-12).

Richmond et al. teaches that the control unit 64 of the gate operator during automatic calibration assigns a count value that represent movement of gate G to a particular position such as a first count zone consisting of a passpoint event, such as gate G moving from a fully opened position equivalent to a count value 0 to a coasting position equivalent to a count value of 485 counts. Therefore, it is inherent that the control unit 64 in the gate operator during automatic calibration sets a determined position by accessing a predetermined number of counts from the memory 62 so that the gate can move to a desired position (fig.10, column 12, lines 1-8, lines 39-40).

In regard to claim 29, Richmond et al. teach a method further comprising

Defining a last count zone to include a portion, but not all, of the count as corresponds to movement of the object towards the position and a last passpoint event as is detected during movement of the object towards the position.

A last count zone is where gate G moving from a coasting position equivalent to a count value of 497 counts to a fully closed position equivalent to a count value of 500 counts;

Detecting a last passpoint event.

A last passpoint event is where gate G moving from a coasting position to a fully closed position as in fig.9, that is subsequent to the first subsequent passpoint event (a first subsequent passpoint event is again where gate G moving from a coasting position to another coasting position where gate G is shy of fully closed position by few counts).

Detection of the movement of the gate is by using the four magnets 56 connected to the shaft, which is sensed by hall effect sensors 57 (as shown in fig.3 & fig.4, column 10, lines 16-20, lines 24-25).

Richmond et al. inherently teach a method further comprising subsequently calibrating a determined position for the object with respect to a passpoint event that occurs during at least one of the first count zone and the last count zone.

Richmond et al. teaches that the control unit 64 of the gate operator during automatic calibration assigns a count value that represent movement of gate G to a particular position such as a first count zone consisting of a passpoint event, such as gate G moving from a fully opened position equivalent to a count value 0 to a coasting position equivalent to a count value of 485 counts or a last count zone consisting of gate G

moving from a coasting position equivalent to a count value of 497 counts to a fully closed position equivalent to a count value of 500 counts.

Therefore it is inherent that the control unit 64 in the gate operator during automatic calibration sets a determined position by accessing a predetermined number of control counts so that the gate can move to a desired position. (Fig.10, column 12, lines 1-8, lines 39-40).

In regard to claim 41, Richmond et al. disclose in fig.10, a movable barrier controller 64 comprising:

- A movable barrier movement sensor input 57 (fig.3, Hall effect sensor mounted in the gate operator A, column 10, lines 24-26)
- A counter 86 (a component forming part of a control system in gate operator A, fig.10, column 10, lines 29-31) that is responsive to indicia of movable barrier movement as received via the movable barrier movement sensor input 57.

A counter 86 generates counts (column 10,lines 54-55), which represent movement of the gate that is sensed by a Hall effect sensor 57. (Fig.3 shows four magnets 56, which is sensed by Hall effect sensors 57 (column 14, lines 24-25) are connected to a shaft and each rotation of the shaft would constitute four counts (column 10, lines 64-66);

- A passpoint signal generator 84 that is responsive to indicia of movement of the movable barrier (gate G, fig.1).

A passpoint signal generator 84 also generate counts (column 10, line 55) that represent movement of the gate (gate, G, fig.6).

- Position determination means responsive to the counter and the passpoint signal generator for automatically processing position information as corresponds to a movable barrier as a function of a passpoint event that occurs during a predetermined zone of count values.

The signals or pulses generated by the signal generator 84 sends the signals to the counter 86 wherein the signals are counted by a counter 86 and the count information (for example, in fig.6 a count of 500 is needed for the gate G to move a distance such as from a fully opened position to a fully closed position and this is equivalent to 125 rotations of the shaft (column 10, lines 60-64), which is stored in the memory 62) is accessed by a movable barrier position determiner 64 (a microprocessor control unit).

A movable barrier position determiner 64 (a microprocessor control unit) tracks the position of the gate with the help of a central processing unit 76 forming part of a microprocessor (column 10, lines 42-43) by the count information stored in the memory 62 (column 10, lines 48-49) and these counts stored in the memory 62 are generated through a signal generator 84 and a counter 86 (column 10,lines 54-55).

In regard to claim 42, Richmond et al. shows in fig.10 a movable barrier controller 64, wherein the predetermined zone of count values comprises a zone that includes a plurality of consecutive count events.

For example as in fig.7, a gate G moving from a fully opened position at a count value 0 to a coasting position equivalent to a count value of 485 counts is one event, gate G moving from a coasting position at a count value of 485 counts to another coasting position equivalent to a count value of 497 counts when gate G is shy of the fully closed position by a few counts is another consecutive event and therefore both events constitute a plurality of consecutive count events.

In regard to claim 43, Richmond et al. disclose in fig.10 a movable barrier controller, wherein the predetermined zone of count values comprises a zone that includes only a single passpoint event.

For example, as in fig.7, a gate G moving from a fully opened position at a count value 0 to a coasting position equivalent to a count value of 485 counts is a zone that has only one single passpoint event such as a gate G moving from a fully opened position to a coasting position and the range of count values for the zone is from 0 to 485 counts out of the 500 counts available.

In regard to claim 44, Richmond et al. disclose in fig.10 a movable barrier controller 64 wherein the passpoint signal generator 84 generates a plurality of passpoint events (plurality of signals or equivalent counts) during movement of the movable barrier (gate

G, fig.1) and wherein the predetermined zone of count values comprises a zone having a range that can only possibly contain a single one of the passpoint events.

For example, as in fig.7, a gate G moving from a fully opened position at a count value 0 to a coasting position equivalent to a count value of 485 counts is a zone that has only one single passpoint event such as a gate G moving from a fully opened position to a coasting position and the range of count values for the zone is from 0 to 485 counts out of the 500 counts available.

Claim Rejections – 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 23, 25-28, 30-32, 33-37, 38, 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richmond et al. (5,729,101) in view of Fitzgibbon (US 2004/0064287).

In regard to claim 23, Richmond et al. differ from the claimed invention by not teaching a method wherein not defining a count zone that includes the first subsequent passpoint event.

Fitzgibbon teaches that passpoint events are selected and calibrated during a learning mode and teaches about setting a calibration trigger for the detected passpoint event or events (page 3, paragraph [0032], lines 1-25).

Since both Richmond et al. and Fitzgibbon teach a method of moving an object it would have been obvious to one of ordinary skill in the art that a method wherein not defining a count zone that includes the first subsequent passpoint event because it depends on the detection and selection of the passpoint events and also depends on which passpoint event or events are triggered during the calibration activity by a distance measuring unit calibrator (fig.1 Fitzgibbon).

In regard to claim 25, Richmond et al. differ from the claimed invention by not teaching a method wherein not calibrating a determined position for the object with respect to a passpoint event that does not occur during the first count zone.

Fitzgibbon teaches that passpoint events are selected and calibrated during a learning mode and teaches about setting a calibration trigger for the detected passpoint event or events (page 3, paragraph [0032], lines 1-25).

Since both Richmond et al. and Fitzgibbon teach a method of moving an object, it would have been obvious to one of ordinary skill in the art that a method wherein not calibrating a determined position for the object with respect to a passpoint event that does not occur during the first count zone because it depends on the detection and

selection of the passpoint events and also depends on which passpoint event or events are triggered during the calibration activity by the distance measuring unit calibrator 17 (fig.1 Fitzgibbon).

In regard to claim 26, Richmond et al. differ from the claimed invention by not teaching a method comprising taking a first predetermined action when a passpoint event does not occur during the first count zone.

Fitzgibbon teaches about a first predetermined action such as a learning mode wherein an operator controller 10 (fig.1) monitors for a first passpoint event and upon detection of the event the operator controller assign and select that particular passpoint event as a calibration trigger. Fitzgibbon teaches that this learning mode operation wherein detecting, selecting and triggering a passpoint event can be done at the factory, or by the user or can be automatically selected (page 3, paragraph [0032] lines 5-17).

Since both Richmond et al. and Fitzgibbon teach a method of moving an object, it would have been obvious to one of ordinary skill in the art to have a method comprising taking a first predetermined action when a passpoint event does not occur during the first count zone because by selecting a learning mode, calibration can be performed by a control unit to monitor a passpoint event and upon detecting, control unit can assign and select the particular passpoint event as the calibration trigger.

In regard to claim 27, Richmond et al. differ from the claimed invention by not mentioning a method wherein taking a first predetermined action includes automatically initiating a learning mode of operation.

Fitzgibbon teaches a first predetermined action such as a learning mode of operation wherein an operator controller 10 (fig.1) monitors for a first passpoint event and upon detection of the event the operator controller assign and select that particular passpoint event as a calibration trigger. Fitzgibbon teaches that this learning mode operation wherein detecting, selecting and triggering a passpoint event can be done at the factory by the user or can be automatically selected (page 3, paragraph [0032] lines 5-17).

Since both Richmond et al. and Fitzgibbon teach a method of moving an object, it would have been obvious to one of ordinary skill in the art to have a method wherein taking a first predetermined action includes automatically initiating a learning mode of operation because by selecting a learning mode, calibration can be performed by a control unit to monitor a passpoint event and upon detecting the event, control unit can assign and select the particular passpoint event as the calibration trigger.

In regard to claim 28, Richmond et al. differ from the claimed invention by not mentioning a method wherein taking a first predetermined action includes initiating a self-healing mode of recorrelating the passpoint and the position.

Fitzgibbon teaches about a learning mode of operation wherein an operator controller 10 (fig.1) monitors for a first passpoint event and upon detection of the event the operator controller assign and select that particular passpoint event as a calibration trigger. Fitzgibbon teaches that this learning mode operation wherein detecting, selecting and triggering a passpoint event can be done at the factory by the user or can be automatically selected (page 3, paragraph [0032] lines 5-17).

Since both Richmond et al. and Fitzgibbon teach a method of moving an object, it would have been obvious to one of ordinary skill in the art to have a method wherein taking a first predetermined action includes initiating a self-healing mode of recorrelating the passpoint and the position because by selecting a learning mode, a control unit serves to facilitate a self healing mode during automatic calibration by monitoring a passpoint event and upon detecting the event, control unit can assign and select the particular passpoint event as the calibration trigger.

In regard to claim 30, Richmond et al. differ from the claimed invention by not teaching a method wherein subsequently calibrating a determined position for the object with respect to a passpoint event that occurs during at least one of the first count zone and the last count further comprises not calibrating a determined position for the object with respect to a passpoint event that does not occur during the first count zone and the last count zone.

Fitzgibbon teaches that passpoint events are selected and calibrated during a learning mode and teaches about setting a calibration trigger for the detected passpoint event or events (page 3, paragraph [0032], lines 1-25).

Since both Richmond et al. and Fitzgibbon teach a method of moving an object, it would have been obvious to one of ordinary skill in the art that a method wherein not calibrating a determined position for the object with respect to a passpoint event that does not occur during the first count zone and the last count because it depends on the detection and selection of the passpoint events and also depends on which passpoint event or events are triggered during the calibration activity by the distance measuring unit calibrator (fig.1 Fitzgibbon).

In regard to claim 31, Richmond et al. teach a method for use with a movable barrier operator (fig.1) comprising:

- Initiating movement of a movable barrier towards a predetermined position.

Movable barrier such as gate "G" in fig.6 moving from a fully opened position to a fully closed position equivalent to a distance of 500 counts (column 10, lines 60-63);

- Detecting a first passpoint event that corresponds to movement of the movable barrier.

As shown in fig.7, detecting movement of gate G moving from a fully opened position to a coasting position using the four magnets 56 connected to the shaft which is sensed by Hall effect sensors 57 (fig.3 & fig.4, column 10, lines 16-20, lines 24-25),

Correlating a first value of the count (first count value of 485, column 11, lines 6-12) with the first passpoint event (a first event such as a gate G moving from a fully opened position to a coasting position, see fig.7, column 11, lines 6-12),

Defining a first count zone to include:

A portion, but not all, of the count as corresponds to movement of the object towards the position (a gate G moving from a fully opened position (count value 0) to a coasting position equivalent to a count value of 485 counts as shown in fig.7, column 11, lines 6-12) and the first passpoint event (a first event such as a gate G moving from a fully opened position to a coasting position, see fig.7, column 11, lines 6-9).

During a first mode of operation (column 11, lines 58-67, column 12, lines 1-8):

-Maintaining a current count that corresponds to movement of the movable barrier.

The microprocessor control unit 64 is synchronized to the actual position of the gate and tracks the position of the gate by adjusting the counts stored in the memory 62 of the control unit 64. The control unit 64 adjusts the current count either by adding or subtracting the number of counts to move the gate to a desired position (column 11, lines 39-46, column 12, lines 30-32, 39-46).

-Detecting the first count zone,

As shown in fig.7, detecting movement of gate G moving from a fully opened position at a count value 0 to a coasting position equivalent to a count value of 485 counts using the four magnets 56 connected to the shaft which is sensed by Hall effect sensors 57 (fig.3 & fig.4, column 10, lines 16-20, lines 24-25).

- Using a passpoint event as occurs during the first count zone to facilitate calibration of position determination for the movable barrier.

Richmond et al. teaches that a microprocessor control unit 64 calibrates the position of the gate (control unit synchronized to the position of the gate, column 14, lines 17-22) during the first count zone that includes a passpoint event such as a gate G moving from a fully opened position equivalent to a zero count value to a coasting position equivalent to a moving distance of 485 counts.

Richmond et al. differ from the claimed invention by not teaching a method wherein maintaining a count that corresponds to the movement of the movable barrier towards the predetermined position.

Fitzgibbon teaches in fig.1 a method wherein maintaining a count comprises first initializing the count (page 3, paragraph [0029], lines 1-9, paragraph [0031], lines 1-3).

Since both Richmond et al. and Fitzgibbon teach a method of moving an object, it would have been obvious to one of ordinary skill in the art that a method wherein maintaining a

count that corresponds to the movement of the movable barrier towards the predetermined position because by resetting a count upon detecting a passpoint event, overall accuracy and reliability of the count can be enhanced (page 1, paragraph [0003) and paragraph [0004]).

In regard to claim 32, Richmond et al. differs from the claimed invention by not mentioning a method wherein maintaining a count comprises first initializing the count.

Fitzgibbon teaches in fig.1 a method wherein maintaining a count comprises first initializing the count (page 3, paragraph [0029], lines 1-9, paragraph [0031], lines 1-3). Since both Richmond et al. and Fitzgibbon teach a method of moving an object, it would have been obvious to one of ordinary skill in the art that a method wherein maintaining a count comprises first initializing the count because the by resetting a count upon detecting a passpoint, overall accuracy and reliability of the count can be enhanced (page 1, paragraph [0003) and paragraph [0004]).

In regard to claim 33, Richmond et al. teach a method wherein defining a first count zone (a first count zone consists of a first event such as a gate G moving from a fully opened position to a coasting position at a count value of 485 as shown in fig.7, column 11, lines 6-12) further comprises defining the first count zone to not include another passpoint event.

Only one event occurs at a time such as a gate G moving from a closed position to an opened position or gate G moving from an opened position to a closed position or gate G moving from a closed position to a coasting position or gate G moving from an opened position to a coasting position (column 11, lines 24-39).

In regard to claim 34, Richmond et al. teach a method wherein the first mode of operation comprises a normal mode (Normal Mode, column 17, lines 31-33) of operation.

In regard to claim 35, Richmond et al. teach a method wherein using a passpoint event as occurs during the first count zone to facilitate calibration of position determination for the movable barrier comprises modifying the current count.
A first count zone consists of a first passpoint event such as a gate G moving from a fully opened position to a coasting position equivalent to a count value of 485 counts (fig.7, column 11, lines 6-12).

Richmond et al. teach that a movable barrier operator such as a gate operator includes a microprocessor control unit 64 and this unit during calibration would modify counts by incrementing or decrementing counts to move a gate to a desired position, such as the passpoint event in the first count zone mentioned above. If the gate has not reached a coasting position equivalent to a count distance of 485 counts, the control unit 64 would

modify the current count by accessing the stored counts in the memory 62 of the control unit 64 so that the gate fully reaches the coasting position (column 12, lines 39-54).

In regard to claim 36, Richmond et al. teach a method, wherein using a passpoint event as occurs during the first count zone to facilitate calibration of position determination for the movable barrier comprises modifying the first value of the count that is correlated with the first passpoint event.

Richmond et al. with reference to fig.7 and fig.9 teach that a movable barrier operator such as a gate operator that includes a microprocessor control unit 64 is used to modify a first count value of a first count zone that includes a first passpoint event such as gate G moving from a fully opened position to a coasting position equivalent to a count value of 485 counts. This first count value of 485 counts is modified to another count value of 488 counts by the control unit 64 to increase the coasting distance so that gate G would move to a new coasting position.

In regard to claim 37, Richmond et al. inherently teach a method wherein using a passpoint event as occurs during the first count zone to facilitate calibration of position determination for the movable barrier comprises modifying a physical location of the movable barrier as corresponds to the first passpoint event.

Richmond et al. teach a drive mechanism such as a clutch 50 structure connected between a motor and a gate (fig.4, column 6, lines 54-57, column 10, lines 1- 15).

Therefore it is inherent that a clutch 35 being part of a drive mechanism of the gate operator A (fig.11) is needed to modify a physical location of the gate (a clutch is used for connection and disconnection of shafts) as corresponds to the first passpoint event such as a gate G moving from an opening position to a coasting position as in fig.7.

In regard to claim 38, Richmond et al. teach a method further comprising:

- Detecting at least one additional passpoint event that corresponds to movement of the movable barrier,

Detecting movement of gate G moving from a coasting position to another coasting position when gate G is shy of the fully closed position by few counts (fig.8, column 11, lines 30-34) using the four magnets 56 connected to the shaft which is sensed by Hall effect sensors 57 (fig.3 & fig.4, column 10, lines 16-20, lines 24-25),

-Correlating a value of the count with at least one of the at least one additional passpoint event.

Gate G moved from a coasting position equivalent to a count value of 485 counts to another coasting position equivalent to a count value of 497 counts where gate G is shy of fully closed position by few counts (fig.8, column 11, lines 30-34).

- Defining another count zone to include:

A portion, but not all, of the count as corresponds to movement of the object towards the position (a gate G moving from a coasting position (count value 485) to another coasting position (count value 497) when gate G is shy of the fully closed position by few counts); and the additional passpoint event (event such as gate G moving from a coasting position to another coasting position when gate G is shy of the fully closed position by few counts as in fig.8).

Therefore a portion of the count, count value 485 to count value 497 has a difference of 12 counts out of the 500 counts used in the movement of the gate.

Richmond et al. differs from the claimed invention by not mentioning a learning mode of operation.

Fitzgibbon teaches about a learning mode wherein an operator controller 10 (fig.1) monitors for a first passpoint event (page 3, paragraph [0032], lines 5-17).

Since both Richmond et al. and Fitzgibbon teach a method of moving an object, it would have been obvious to a person of ordinary skill in the art that to have a learning mode for detecting, selecting and triggering a passpoint event or events by the user to correct any discrepancy in the calibration settings.

In regard to claim 39, Richmond et al. teach a method wherein defining another count zone (another count zone is where gate G moves from a coasting position (count value

485) to another coasting position (count value 497) when gate G is shy of the fully closed position by a few counts, fig.8) further comprises defining another count zone to not include another passpoint event.

Only one event occurs at a time such as a gate G moving from a closed position to an opened position or gate G moving from an opened position to a closed position or gate G moving from a closed position to a coasting position or gate G moving from an opened position to a coasting position (column 11, lines 24-39).

In regard to claim 40, Richmond et al. teach a method further comprising:

During the first mode (Normal Mode, column 17, line 31) of operation:

- Detecting another count zone.

Detecting movement of gate G from a coasting position (count value 485) to another coasting position (count value 497) when gate G is shy of the fully closed position by few counts, using the four magnets 56 connected to the shaft, which is sensed by Hall effect sensors 57 (fig.3 & fig.4, column 10, lines 16-20, lines 24-25).

- Using a passpoint event (fig.8, event such as gate G moving from a coasting position to another coasting position) as occurs during another count zone (another count zone such as a gate G moving from a coasting position equivalent to a count value of 485

counts to another coasting position equivalent to a count value of 497 counts when gate G is shy of the fully closed position by few counts) to facilitate calibration of position determination for the movable barrier.

There is a difference of 12 counts between count value 485 and count value 497 and this difference of 12 counts is called a coasting count and it is programmed in the control unit 64 so that in the future, the control unit 64 can determine the position of gate G using the value stored in the memory 62 of the control unit 64. Therefore when a passpoint event such as a gate G moves from a coasting position to another coasting position this coasting count value is accessed from the memory 62 by the control unit 64 (fig.10, column 10, lines 48-49).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Antony M. Paul whose telephone number is (571) 270-1608. The examiner can normally be reached on Mon - Fri, 7:30 to 5, Alt. Fri, East. Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Loke can be reached on (571) 270-1809. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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